

PLEXWRITER

48/24/48A

Model PX-W4824TA (Internal)

INSTALLATION AND USERS MANUAL



AUGUST 2002

Plextor reserves the right to make improvements in the products described in this manual at any time without prior notice.

Plextor makes no representation or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Further, Plextor Corp. reserves the right to revise this manual and to make changes in its content without obligation to notify any person or organization of such revision or change.

This manual is copyrighted, all rights reserved. It may not be copied, photocopied, translated, or reduced to any electronic medium or machine-readable form without Plextor's prior permission.

Manual copyright ©2002 Plextor Corp. First edition, August 2002.

Licenses and Trademarks

Plextor and the Plextor logo are registered trademarks and PlexWriter is a trademark of Plextor Corp. BURN-Proof is a trademark of Sanyo Electric Co., Ltd. All other licenses and trademarks are property of their respective owners.

Record Your Serial Number

For future reference, record the serial number and the TLA code (found on your drive's label) in the space provided below.

TLA/Firmware Revision Number

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Subpart B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications should be approved by the party responsible for compliance of FCC Rules; otherwise, the user loses authority to operate the equipment.

LASER INFORMATION

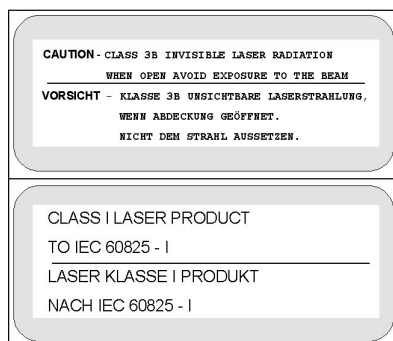
These products have been designed and manufactured according to IEC 60825-1 on the Safety of Laser products. This product comes under "Class 1 Laser Products."

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

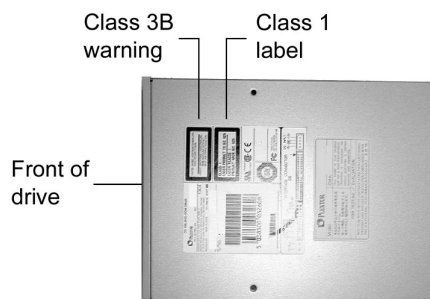
A Laser Caution Label is attached on the top of the internal drive model. The label reads:

"CAUTION – CLASS 3B RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM."

Detail of Laser Caution Labels



Top View of Drive Showing Location of Laser Caution Labels



The laser beam emitted from the optical pickup is invisible. Accordingly:

- Do not open the optical pickup housing.
- Obtain service only from Plextor-authorized personnel.

CAUTION: To disconnect the CD drive from an electrical current, pull out the power plug.

VORSICHT: DIE TRENNUNG VOM NETZ ERFOLGT DURCH ZIEHEN DES NETZSTECKERS.

Zur Einhaltung der Funk-Entstörung von nicht selbständig betreibbaren Hochfrequenzgeräten (periphere Anlagenkomponenten).

Dieses Gerät entspricht als Einzelgerät den Funk-Entstöranforderungen der Postverfügung Nr. 243/1991.

Wird das Gerät innerhalb einer Anlage zusammen mit anderen Geräten betrieben, so muss bei Inanspruchnahme der “Allgemeinen (Betriebs-) genehmigung” nach der BMPT-AmtsblVfg Nr. 243/1991 die gesamte Anlage folgenden Richtlinien entsprechen:

- Grenzwertklasse B der EN55022
- Auflagen nach § 2 der BMPT-AmtsblVfg 243/1991

Dies ist bei der Zusammensetzung einer Anlage (z.B. Computersystem) aus nur einzeln geprüften Geräten nicht immer erfüllt.

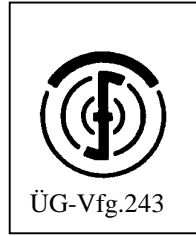


Table of Contents

1. Getting Started	1
About this Manual	1
Meet Your PlexWriter 48/24/48A	1
What the PlexWriter 48/24/48A Does	1
Minimum Configuration to Use the PlexWriter 48/24/48A	2
What You Can Do with the PlexWriter 48/24/48A	2
Save Your Box!	3
What's In the Box	3
PlexWriter Drive Features and Controls	4
Front Panel	4
Rear Panel	5
About Software	6
Precautions	6
2. Installing Your PlexWriter	7
QuickStart Installation—For Experienced PC Users Only	7
Open the Computer and Prepare for Installation	7
Determine Your Existing IDE Configuration	8
Set the Drive's Mode Jumper	9
Changing the Mode Jumper on Your Internal PlexWriter Drive	9
Select an IDE Configuration	10
About Cable Select	13
Identifying Whether Your System Uses Cable Select	14
Locating the Master Position on a Cable Select Cable	14
Set the DMA Jumper	14
Install the PlexWriter Drive	15
Record the Serial Number	15
Mount the PlexWriter Drive in the Computer	15
Using Sound Boards and Audio Cables	20
Choosing and Connecting Audio Cables	20
Make Sure the Drive Is Recognized	21
3. Using Your PlexWriter	23
What Media to Use	23
Tray Loading and Operation	23
Handling CD Media	24
Cleaning Discs	24
Using the Writing Speed Indicator	25
Using SpeedRead	25
What SpeedRead Does	25
Manually Enabling SpeedRead	26
Disabling SpeedRead	26
Advantages of BURN-Proof	26
Advantages of VariRec Technology	27
How the Default VariRec Setting Is Determined	27

Changing the VariRec Setting 27

When You Write with VariRec 28

Advantages of Overburn..... 28

4. Maintenance and Troubleshooting 29

Upgrading Firmware 29

Troubleshooting 29

Using the Self-Test Diagnostics 30

What You'll Need 30

CD Write/Read Test..... 30

What the Self-Test Results Indicate 32

Appendix A: PlexWriter Specifications..... 33

Appendix B: Technical Support..... 39

How to Contact Plextor Technical Support..... 39

Before You E-mail/Log On/FAX/Call 40

Returns 40

Contacting Plextor's RMA Department 40

Shipping Your Drive to Plextor..... 41

Appendix C: Warranty 43

Index..... 45

1. Getting Started

Congratulations! Thank you for purchasing the Plextor® PlexWriter™ 48/24/48A, a reliable, high-performance CD writer, CD rewriter and CD player. We appreciate the confidence you have shown in us. Our goal is to put you—and keep you—on the leading edge of CD technology.

About this Manual

Please read this manual carefully and keep it handy for easy reference. Use the manual for installation, operation and troubleshooting. If your drive needs service, see your dealer or call Plextor's Technical Support Department.

In this manual you should find all the information you need to successfully install, operate and troubleshoot your drive. If you run into a problem that doesn't seem to be covered, however, please contact us. (See "Appendix B: Technical Support" for the different ways you can reach us.) You will be connected to our friendly, helpful band of tech support engineers. What might seem like an uncooperative drive to you could very well be a 30-second fix to them. But we will never know unless you contact us.

Meet Your PlexWriter 48/24/48A

The PlexWriter 48/24/48A is a CD-ReWritable drive that provides professional quality CD performance for writing, rewriting and reading.

What the PlexWriter 48/24/48A Does

The PlexWriter 48/24/48A:

- Writes to CD-R (recordable CD) media at up to 48X speed.
- Writes to Ultra-Speed CD-RW (rewritable CD) media at 24X speed. The drive also writes to High-Speed CD-RW media at 4X and 10X, and to Normal-Speed CD-RW media at 4X speeds.
- Reads all CD-ROM and CD-R media at a maximum of 48X speed with an average access time of 65 milliseconds. (Maximum read speed of CD-RW media is 40X.)

Reliable writing is virtually guaranteed, thanks to unique PoweRec circuitry that automatically detects the type of media being recorded and adjusts the PlexWriter 48/24/48A to provide the optimum laser power and length of burn—which means the highest quality playback. In addition, the PlexWriter 48/24/48A has VariRec technology, a feature offered by Plextor that allows you to manually adjust the drive's laser power during the audio recording process. The drive has an EIDE interface that supports the ATAPI-5 command set, including special commands for CD-R and CD-RW.

The PlexWriter 48/24/48A is fully MMC-compliant, and supports the following recording modes: Disc-at-Once, Track-at-Once, Session-at-Once, and Multi-Session, as well as variable and fixed packet writing. It also supports the UDF file system implemented through packet writing.

The PlexWriter 48/24/48A supports the Mt. Rainier (MRW) function for the formatting and management of CD-RW media. It also offers SpeedRead, a feature that boosts read speed to 48X without sacrificing data integrity or safe operation. Another important feature of this drive is Overburn; If your application software supports Overburn, you now have the capability to burn an audio disc up to 94 minutes 55 seconds in length, or a data disc up to 830 MB in capacity.

The PlexWriter 48/24/48A supports running OPC and is compatible with Windows Plug & Play. Flash memory allows upgrading the PlexWriter 48/24/48A to the latest firmware revision (available from the Plextor web site) without opening the computer or physically accessing the drive. BURN-Proof™ technology eliminates buffer underrun errors, which means you can safely use your computer for other things while you're writing to a CD-R or CD-RW disc. And Plextor backs up this remarkable drive with a one-year full warranty on parts and labor, and unlimited toll-free tech support.

Your PlexWriter also has a self-diagnostic feature. The drive can actually determine if it is working properly, an invaluable feature for troubleshooting.

Minimum Configuration to Use the PlexWriter 48/24/48A

- **Computer:** Pentium II 300-MHz CPU or faster.
- **Minimum RAM:** 64 MB.
- **Hard disk size:** To write to a CD in image mode (that is, to write an image of a CD to your hard disk), you need 1 GB of free space.
- **ATAPI settings:** The IDE controller should be set to “Auto” in the motherboard BIOS.

What You Can Do with the PlexWriter 48/24/48A

Just look at some of the things you can do with your PlexWriter 48/24/48A:

- Record data or audio onto writable or rewritable CD media.
- Play music CDs.
- Save photos and other images on rewritable or writable CDs.
- Create a “CD sneakernet” to share information with colleagues—just use software such as Roxio’s DirectCD to drag and drop files onto CD-R or CD-RW media, then continue adding files and sharing the same CD disc.
- Archive images and video to CD.
- Master new software programs on CD.

What's In the Box

What you find in your Plextor box depends on what the company that sold you the box put in—or took out—while the Plextor drive was in their possession.

Plextor currently sells its PlexWriter 48/24/48A drive in this configuration:

- PlexWriter 48/24/48A CD-RW drive
- 40-pin IDE ribbon cable
- 4 mounting screws
- Extra jumper
- Emergency eject tool
- 1 piece of approved CD-R media
- Plextor CD with bundled pre-mastering and packet writing software
- *PlexWriter 48/24/48A Installation and Users Guide*

If the security sticker on top of your box is cut, there may be a good reason: for example, a dealer may have added other components or software. Carefully check the contents to ensure nothing has been removed. If something is missing, contact the party from whom you purchased the box for an explanation.

NOTE: This applies to the Plextor retail box. Your drive may have been shipped in a different box with other contents, depending on whom you purchased the drive from and what they included inside the box.

If your drive came pre-installed, some or all of the items above may have been installed and may not be separately available. See the Plextor web site for locations to purchase additional or replacement accessories.

Save Your Box!

Be sure to save the box after you have installed your PlexWriter drive. The box and its packaging material were designed and drop tested to ensure your PlexWriter can endure rough treatment and still arrive in working order.

We hope you will never have to ship your drive back to us. If you do, however, it's best to send it packaged in the original box. Some of our customers have not held on to their boxes and have had to resort to less-than-secure methods to get drives back to us.

We cannot assume liability for any damage your drive sustains during shipment. Therefore, please ship your drive in the safest manner possible.

Before shipping your drive, refer to the support section of the Plextor web site for pointers. The web site is at: <http://www.plextor.com>

If you did not receive a box (for example, your drive came pre-installed in a computer), we recommend you pay a packaging store (such as Mail Boxes Etc.) to ship your drive. If you don't have a packaging store in your area, ask for packaging pointers when you contact us to get an RMA number before returning any drive. You can contact our RMA Department by e-mail at rmasupport@plextor.com; or by calling us at 800-886-3935; or by fax at 510-651-9765.

PlexWriter Drive Features and Controls

Before proceeding, become familiar with the controls and features of your PlexWriter drive. Match the parts of your drive to the illustrations below.

Front Panel

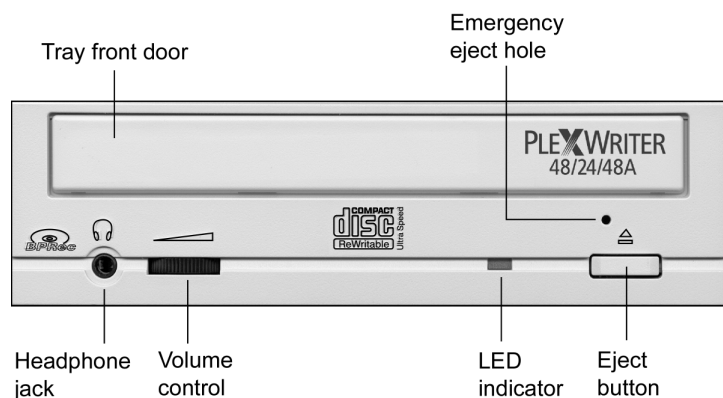


Figure 1: Front Panel of the PlexWriter 48/24/48A Drive

- **Tray front door:** Attached to tray drawer.
- **Headphone jack:** Stereo mini-jack for headphones and powered speakers.
- **Volume control:** Controls volume of headphone jack.

NOTE: The volume control on the front panel of your drive adjusts only the sound level of the headphone jack. It has no impact on the volume level of the rear panel audio outputs.

- **LED indicator:** Illuminated green during disc loading and when BURN-Proof is operational. Illuminated yellow when a disc is being read. Blinks amber when writing a CD-R or CD-RW disc. The indicator changes its blinking interval to indicate different writing speeds. The indicator also blinks green three times when SpeedRead is enabled.
- **Eject button:** Push once to eject tray. Push again to insert the tray back into the PlexWriter. To prevent wear on the drive, always use the eject button to insert the tray.
For SpeedRead, press and hold this button for 3 seconds or more before inserting the disc. The LED indicator blinks green 3 times to indicate SpeedRead is enabled. SpeedRead enables high speed (48X) CD reading.

- **Emergency eject hole:** If the automatic eject button does not work, insert the emergency eject tool, paper clip, or other thin, rigid object in this hole to eject tray. Turn OFF power before using this feature.

Rear Panel

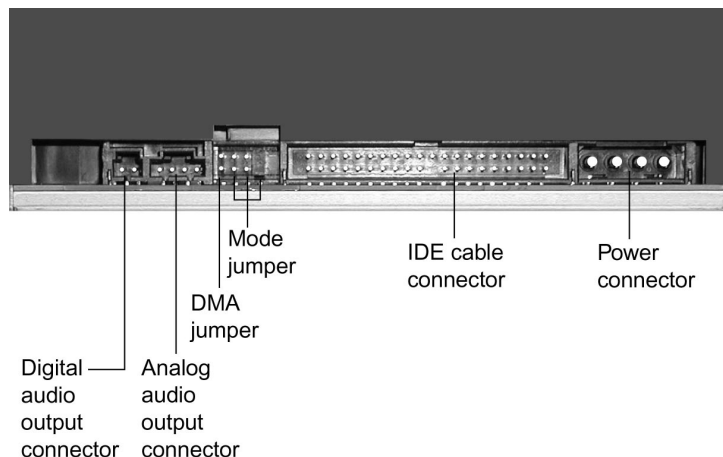


Figure 2: Rear Panel of the PlexWriter 48/24/48A Internal Drive

- **Digital audio output connector:** Outputs digital stereo signal. For connecting to a sound board that supports Sony/Philips digital interface (SPDIF) or Digital-In.
- **Analog audio output connector:** Outputs analog stereo signal. Use to connect to sound board or audio amplifier. Use standard MPC-3 type, 4-pin connector.
- **DMA jumper:** Use the DMA jumper to convert between Ultra DMA Mode 0-2 (no jumper, default) and Multiword DMA Mode 0-2 (with jumper installed). In general, leave this jumper at its factory setting, which is Ultra DMA (that is, no jumper installed).
- **Mode jumper:** Use the mode jumper to select operation as an IDE master or slave, or for cable select. In general, leave this jumper at its factory setting, which is master.
- **IDE cable connector:** Connects to IDE (ATAPI) interface using 40-pin IDE flat ribbon cable.
- **Power connector:** Connects to your computer's power supply to provide DC +5 volts and +12 volts to the PlexWriter.

About Software

In order to create CD-R and CD-RW discs you will need to have mastering, packet writing, or duplication software installed on your computer system. If you purchased a retail kit from Plextor, you'll get software packages that include such software.

For details on the various software packages for writing to CD-R or CD-RW, please visit the web sites of the companies whose software you are interested in, refer to their user's manuals, or look at the help option within the software. A list of various software packages that you can use with your Plextor drive can be found in the Support/Compatibility section of www.plextor.com.

Precautions

Like the rest of your computer system, your PlexWriter requires reasonable care in its installation and use.

- Keep the area around your drive clean from dust, smoke, and other contaminants.
- Do not allow moisture or liquids, including water or cleaning fluids, to touch the drive. Thinner, benzene, or alcohol-based solvents can mar your drive's surface.
- Do not drop or jolt the drive.
- Do not attempt to open the drive and service it yourself. Removing the cover may expose you to harmful electrical voltages or the laser beam. For your safety, entrust service to Plextor-authorized service personnel only.
- Keep your CDs free of dirt or other contaminants, by storing them in jewel cases. Use only industry-standard discs. Do not insert dirty, warped, poorly balanced, or cracked discs into the drive.
- Do not clean discs using a circular motion. Instead, using a soft, dry cloth, wipe gently in a radial motion; start at the center of the disc and proceed to the outer edge.

CAUTION: Install your PlexWriter horizontally. Plextor does not guarantee the drive's performance in a vertical position.

2. Installing Your PlexWriter

This chapter explains how to physically install your PlexWriter in your computer. The steps you'll need to do are as follows:

1. Turn OFF your computer system.
2. Set the jumper for your new PlexWriter drive, if necessary.
3. Mount the PlexWriter drive into an available drive bay inside the computer system.
4. Make all necessary cabling connections: IDE cable, power cable, and audio cable.
5. Turn your computer system ON.

The following pages give more details for this procedure.

Open the Computer and Prepare for Installation

To determine whether your PlexWriter will be a Master or a Slave, open your computer and examine the IDE connections to the motherboard.

To open the computer:

1. Before proceeding, make sure the power to your computer and any external peripherals is OFF and your computer is UNPLUGGED from its power source.
2. Remove your computer's cover, following the directions provided by your computer's manufacturer. Typically, this involves loosening or removing several screws on the back panel of your computer and sliding off the cover. See Figure 3 for an example.

QuickStart Installation—For Experienced PC Users Only

If you've installed computer peripherals before, you're in luck with the PlexWriter drive. Use this QuickStart installation to get up and running quickly.

Typical Scenario 1: You have a PC with an IDE interface installed, you have Windows 95, 98, 98SE, Me, XP, or 2000, and you have nothing installed on the secondary IDE port.

What to do: Leave the PlexWriter's jumper set to Master, attach it to the secondary IDE port, and go. Windows will recognize the drive automatically.

Typical Scenario 2: You have a PC with an IDE interface installed, you have Windows 95, 98, 98SE, Me, XP, or 2000, the primary IDE port already has two devices connected and you have a CD-ROM installed on the secondary IDE port.

What to do: Change the CD-ROM to Slave, leave the PlexWriter's jumper set to Master and attach the PlexWriter to the secondary IDE port. Windows recognizes the new drive automatically.

If neither of these situations applies to you, or you're not comfortable with IDE installation, read the rest of this chapter for more detailed installation instructions.

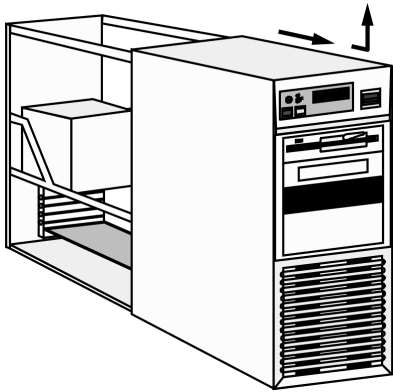


Figure 3: Removing a Typical Computer's Cover

Determine Your Existing IDE Configuration

With your computer open, determine the existing IDE configuration. You can do this by looking at the 40-pin IDE ribbon cable (or cables—there may be two) and seeing what is connected to them.

One end of the IDE cable is connected to a port on the computer's motherboard; and the other end is connected to one or two peripheral devices (such as a hard disk or CD-ROM drive). If there are two devices, one is configured as *Master* and the other the *Slave*, as indicated by the position of jumpers on the back of the drive. (This is also true for the Cable Select bus.) If there are two IDE ports, one is for the *primary* IDE bus and the other is for the *secondary* bus.

Before you install your PlexWriter, your computer's IDE configuration is usually one of the following:

- **Configuration A:** Hard disks connected as Master and Slave devices on primary IDE port; CD-ROM drive connected as the Master device on secondary IDE port.
- **Configuration B:** Hard disk connected as Master device and DVD or CD-ROM drive connected as Slave on the primary IDE port; nothing connected to secondary IDE port.
- **Configuration C:** Hard disk connected as Master device on primary IDE port; nothing connected to secondary IDE port.
- **Configuration D:** System uses special "Cable Select" cables; all devices are jumpered for Cable Select.

Set the Drive's Mode Jumper

You specify your drive's Master or Slave setting before installing it. You do this by changing the position of a jumper on the mode jumper block at the rear of the drive.

Your drive ships from our factory with its mode jumper set to operate the PlexWriter as a Master. This will work in most custom system configurations. If your computer is from a large OEM system manufacturer such as IBM, Hewlett Packard, Gateway or Compaq, you will need to pay particular attention to whether the computer uses the Cable Select scheme.

Changing the Mode Jumper on Your Internal PlexWriter Drive

The PlexWriter drive arrives from the factory with its mode jumper set to Master. (A function is ON if the jumper is installed and OFF if the jumper is removed.)

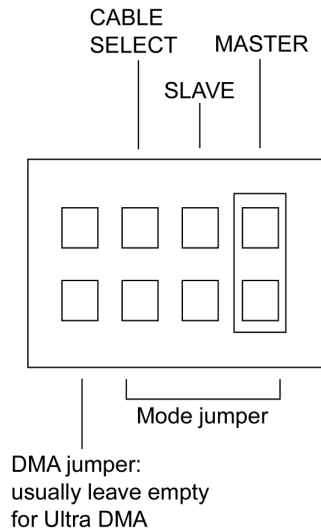


Figure 4: Factory Settings for Mode Jumper at the Rear of the Drive

Changing to a Master, Slave, or Cable Select

The Master/Slave setting for the drive is determined by the mode jumper. The jumper is placed over one of the sets of mode pins. To change the drive from Master to Slave or to Cable Select, you must move the jumper.

For example, to change the PlexWriter drive to be a Slave, move the jumper to the right set of mode pins, leaving the other pins uncovered. To change the drive for Cable Select, move the jumper to the set of mode pins just to the right of the DMA jumper. (Usually, you leave the DMA jumper off.)

Note that if any device is jumpered as Cable Select, then *both* devices connected to that cable must be jumpered as Cable Select. In addition, the cable you use must be a special Cable Select cable.

Changing Jumper Settings

- To remove a jumper, pull it off with your fingers or a pair of needle-nose pliers.
- To install a jumper, push it onto the jumper pins.

CAUTION: Ensure power to the drive is OFF before installing or removing a jumper.

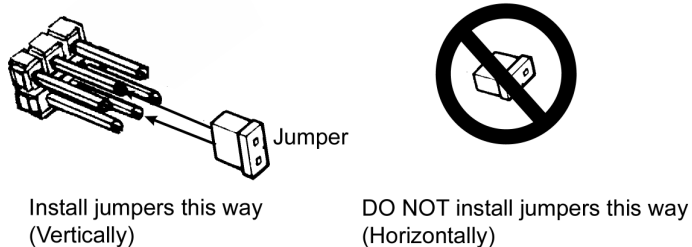


Figure 5: Install the Mode Jumper Across Vertical Pairs of Pins

CAUTION: Install the mode jumper across the pins as shown (vertically). Do not connect one pin switch to another by installing the jumper lengthwise (horizontally). Doing so could result in damage to the drive.

Select an IDE Configuration

Set the jumper according to the desired configuration, as shown in the tables and illustrations on the next few pages.

NOTE: For best CD-RW performance, try to connect the PlexWriter to the IDE port that is not connected to the hard disk drive or to a CD-ROM drive. In most cases, this will be the secondary IDE port.

NOTE: For best results, set the PlexWriter to be the Master, if possible.

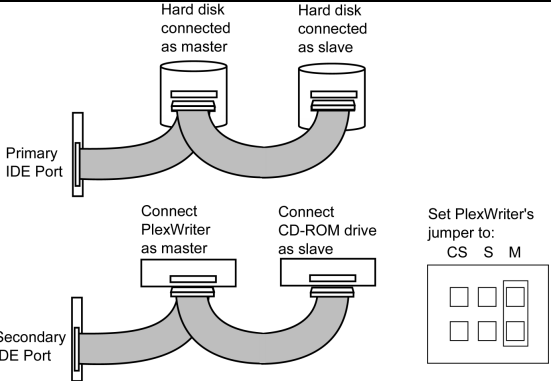
	Before PlexWriter Installation	How to Install the PlexWriter
A	Hard disks connected as Master and Slave devices on primary IDE port; CD-ROM connected as Master device on secondary IDE port.	Remove the CD-ROM drive, change it to Slave, and re-connect it to the secondary IDE port. Set the PlexWriter's mode jumper to Master, and connect the PlexWriter as Master device to the secondary IDE port.
	 <p>Hard disk connected as master</p> <p>Hard disk connected as slave</p> <p>Primary IDE Port</p> <p>Connect PlexWriter as master</p> <p>Connect CD-ROM drive as slave</p> <p>Secondary IDE Port</p> <p>Set PlexWriter's jumper to:</p> <p>CS S M</p>	
	<p>NOTE: Configuration A can make it very difficult to write from the CD-ROM to the PlexWriter at 48X using "on-the-fly" copying. System configuration and performance will make a big difference.</p> <p>Depending on how fast the CD-ROM drive can stream data to the PlexWriter, it may not be fast enough to keep the buffer full. In this case, the buffer may become empty and a buffer underrun error may happen. However, because it is equipped with BURN-Proof, your PlexWriter can still make successful copies if you use software that supports BURN-Proof. (All software shipped with PlexWriter 48/24/48A drive retail kits supports BURN-Proof.)</p> <p>If you still have problems writing with this configuration, use the image writing method (that is, write an image to your hard drive, then write that image onto the CD-R or CD-RW media), or record at a lower speed for best results. We also recommend that DMA be enabled on your computer, if your system supports it.</p>	

Figure 6. How to Install the PlexWriter If Your Computer Is Originally Set Up in Configuration A

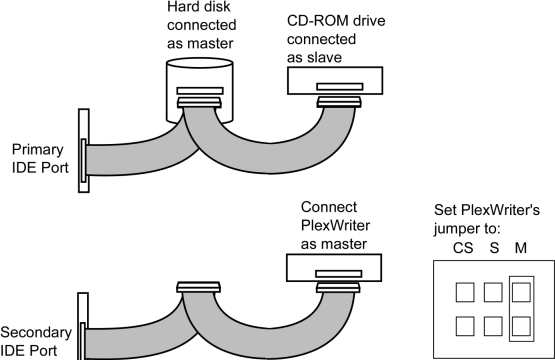
Before PlexWriter Installation		How to Install the PlexWriter	
B	Hard disk connected as Master device, and CD-ROM or DVD-ROM drive connected as Slave on the primary IDE port; nothing connected to secondary IDE port.	Set the PlexWriter's mode jumper to Master, and connect the PlexWriter as Master to secondary IDE port.	
			

Figure 7. How to Install the PlexWriter If Your Computer Is Originally Set Up in Configuration B

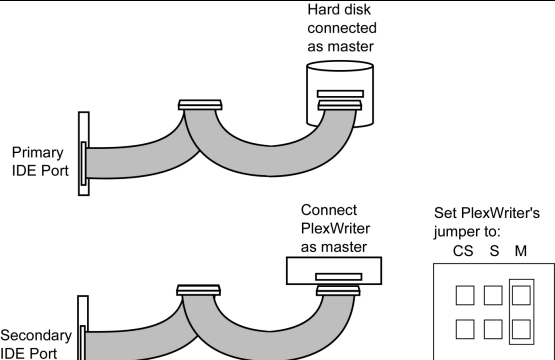
Before PlexWriter Installation		How to Install the PlexWriter	
C	Hard disk connected as Master device on primary IDE port; nothing connected to secondary IDE port.	Set the PlexWriter's mode jumper to Master, and connect the PlexWriter as Master to secondary IDE port.	
			

Figure 8. How to Install the PlexWriter If Your Computer Is Originally Set Up in Configuration C

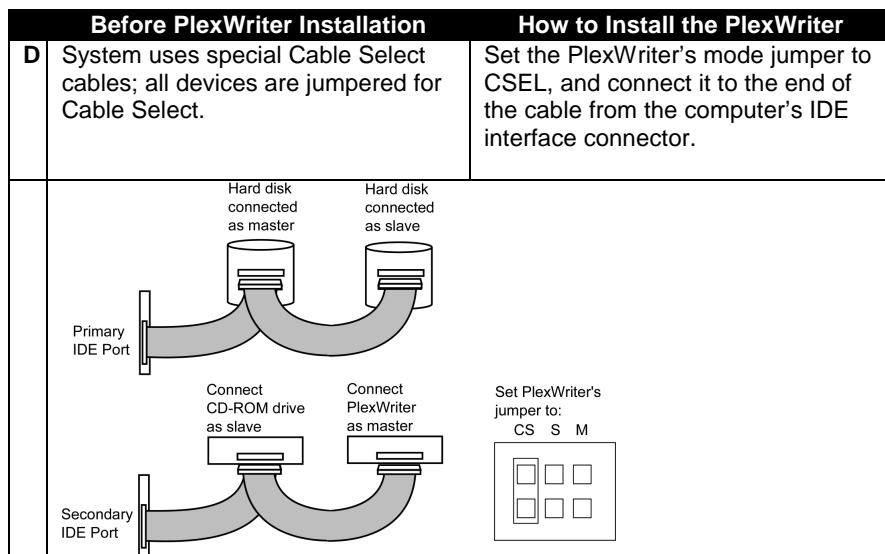


Figure 9: How to Install the PlexWriter If Your Computer Is Originally Set Up in Configuration D

About Cable Select

The Cable Select jumper position sets the PlexWriter drive to use the CSEL signal from the IDE interface for configuration purposes. This signal automatically selects the correct Master/Slave setting for the PlexWriter.

To use the host interface CSEL signal for configuration, set the PlexWriter's jumper to CABLE SELECT:

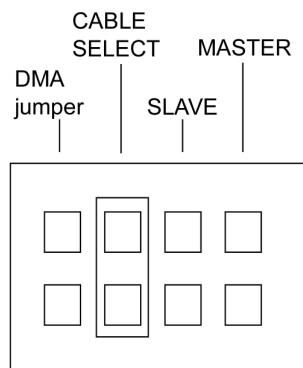


Figure 10: Using the CSEL Jumper to Configure the PlexWriter Drive

To use CSEL, you must have:

- A computer that supports CSEL.
- A special CSEL cable for IDE.

NOTE: The IDE cable supplied by Plextor does *not* support CSEL. To use CSEL and Cable Select, you'll have to purchase a CSEL cable, or use one that may be supplied with your CSEL-configured system.

Identifying Whether Your System Uses Cable Select

If you are unsure whether or not your system has a Cable Select cable installed, either look at the cable or look at the jumpers on the CD-ROM drive. If any device is jumpered as Cable Select, then both devices on that cable should be jumpered the same.

Locating the Master Position on a Cable Select Cable

With Cable Select, Master and Slave are determined not by jumpers, but by the connectors on the Cable Select cable. The connectors are identified as Master or Slave.

Set the DMA Jumper

Your PlexWriter ships from the factory with no DMA jumper installed. (The pins are empty.) The empty pins mean the drive is set to Ultra DMA. This setting should work in most cases, so you don't have to do anything more.

With some (generally older) personal computers that do not have an Ultra DMA IDE chipset, the computer may "hang" or crash with the PlexWriter set to the default Ultra DMA setting. If this happens, change the PlexWriter to Multiword DMA mode by installing the DMA jumper across the two pins just to the left of the mode jumper pins.

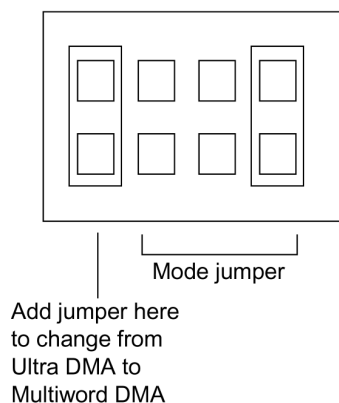


Figure 11. Add the DMA jumper if you need to change to Multiword DMA.

Install the PlexWriter Drive

Before proceeding to install the PlexWriter drive in your personal computer, double-check your jumper setting.

Record the Serial Number

Record the serial number and TLA code of your drive on the inside front cover of this manual.

Mount the PlexWriter Drive in the Computer

You can mount your internal PlexWriter drive in any available bay. You must remove the small panel that covers the bay that you want to use.

CAUTION: Install your PlexWriter horizontally. Plextor does not guarantee the drive's performance in a vertical position.

If you don't have an empty bay, remove the existing IDE CD-ROM drive and install the PlexWriter.

You must make a minimum of two cable connections to your PlexWriter. The two cable connections that you must make are:

- IDE cable
- Power cable

There are also two optional cable connections:

- An analog audio cable connection if you are using a sound board in your computer and plan to connect the PlexWriter's audio output to the audio connector on the sound board.
- A digital audio cable connection if the sound board is equipped with SPDIF or Digital-In and you wish to use the digital audio output from your PlexWriter.

Do You Need Another IDE Ribbon Cable?

An IDE cable is a standard 40-pin flat-ribbon cable, usually with three connectors. One end connects to the IDE port on your computer's motherboard, and the other two connectors are free for attaching peripherals such as a hard disk, CD-ROM drive, or a PlexWriter drive.

You may need to install another IDE ribbon cable in your computer. You can use the extra IDE cable supplied with your PlexWriter. (Just remember, if you want to use CSEL and Cable Select settings, this Plextor-supplied cable won't work—you'll have to purchase a special cable for Cable Select.)

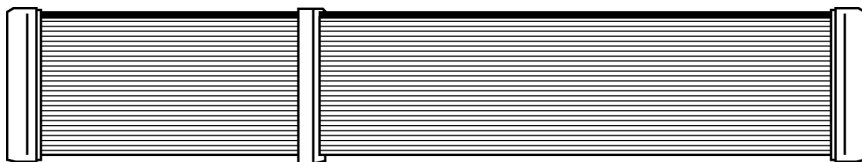


Figure 12: Internal IDE Ribbon Cable

CAUTION: The length of any IDE cable cannot exceed 18 inches.

Do You Need a Power Cable?

In most computers, you will find extra power connectors in the computer ready for your use. When you open the computer, check the cable running from your power supply to your hard disk and see if it has extra connectors on it. If so, you can plug one of these into the power connector found on the rear panel of the PlexWriter.

If you do not find any additional connectors (either because they were not supplied or they are all in use), you will have to buy a “splitter” or a “Y-connector.” These can also be found at most retail and mail-order computer stores.

To mount the PlexWriter drive:

1. Make sure the power to your computer and any external peripherals is turned OFF and your computer is UNPLUGGED from its power source.
2. If you haven't already removed the cover from your computer, remove it now, following the directions provided by your computer's manufacturer. Typically, this involves loosening or removing several screws on the back panel of your computer and sliding off the cover. See Figure 3 for details.
3. Remove the cover panel from the bay that will hold the PlexWriter drive. To remove the cover panel, pop it out by pressing outward lightly. (In some older computers, you may have to remove screws that hold the panel in place.)

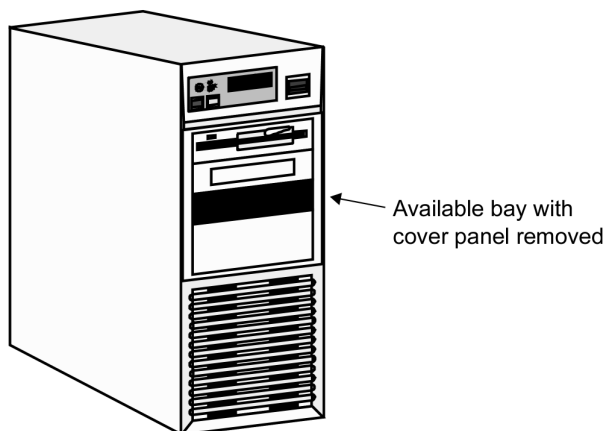


Figure 13: Removing the Cover Panel from a Bay

4. Determine if you must install mounting rails on the sides of your drive. To do so, insert the drive into the open bay. If the drive fits tightly with little or no clearance on either side of the drive, you will not have to use mounting rails. The drive can be mounted directly into your computer. Go to step 6.

NOTE: Plextor does not provide rails. If you need rails, you can obtain them from the computer manufacturer or from a computer supply retail or mail-order store.

5. If you must use mounting rails, fasten the rails to the lower pair of holes as shown in Figure 14. (In some instances, you may need to fasten the rails to the upper set of holes.) After fastening the rails, check their positioning by sliding the drive into the bay before you mount the drive or connect any cables.

Be sure not to mistake the inner and outer face of the rail when attaching. Typically, the smooth side of the rail faces away from the drive's chassis.

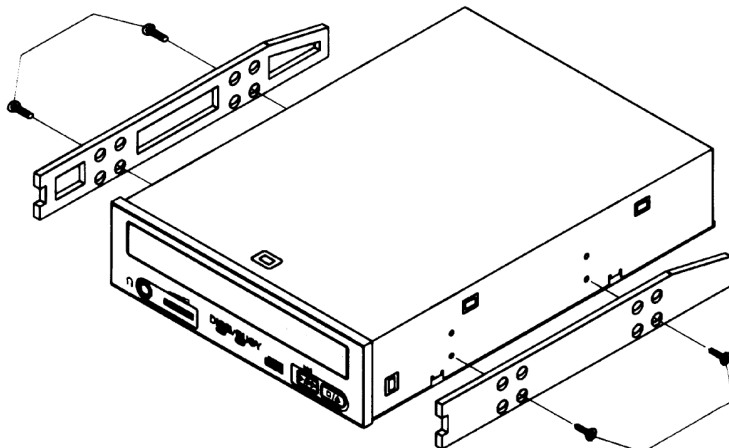


Figure 14: Installing Mounting Rails (if Needed)

6. Plug one connector of the IDE cable into the IDE connector on the rear panel of the drive before you insert the drive into your computer. Then thread the cable through the front of the open bay and back toward the motherboard. The drive should slide smoothly into the bay. If it does not, check for obstructions in the bay and ensure the side rails are attached properly.
7. If not already connected, attach the other end of the IDE ribbon cable to the connector on the motherboard.

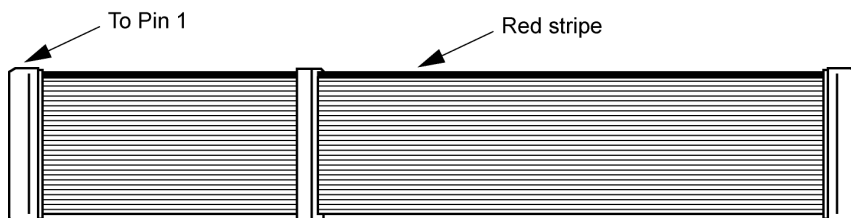


Figure 15: Connecting the IDE Ribbon Cable

CAUTION: It is easy to accidentally plug your IDE ribbon cable upside down into both your drive and the motherboard. Be sure you match the red stripe along one side of the IDE cable to Pin 1 on the motherboard and Pin 1 on the drive. (Pin 1 on the drive is closest to the power connector.) Each connector on most ribbon cables has a “key” in the middle. This key should fit into a slot in the middle of each connector of the motherboard, your PlexWriter, and any other internal IDE peripherals.

8. Double-check your work. You must ensure the side of the IDE cable with the red stripe is matched to Pin 1 on the interface board and on the drive.

CAUTION: In the case of only one IDE device, you must make certain that one end of the cable is always connected to the IDE connector on the motherboard. The other end of the connector must be connected to a device. The end connector of the cable should never be left unconnected.

9. Connect a power cable from the computer to the DC INPUT connector of the PlexWriter drive. In most computers, you will find free power connectors that are ready for your use.

Check the cable running from your power supply to your hard disk and see if it has extra connectors on it. If so, you can plug one of these into the power connector found on the rear panel of the PlexWriter.

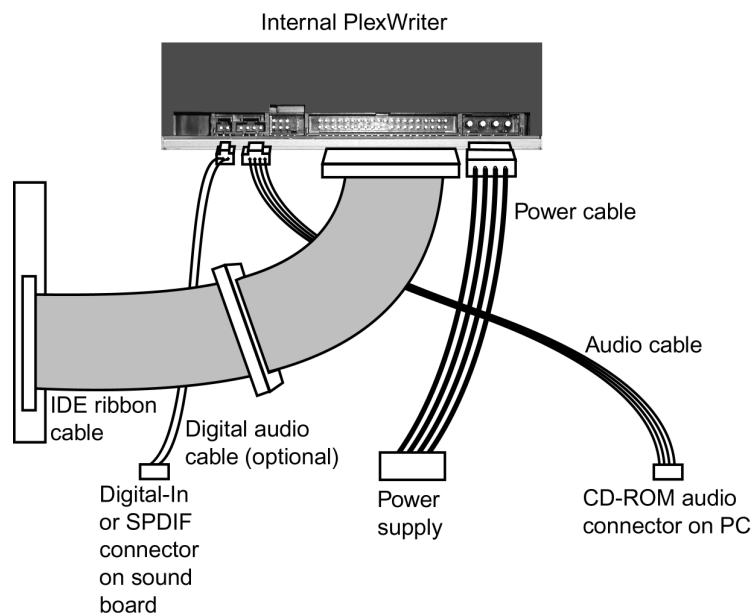


Figure 16: Cable Connections for an Internal IDE PlexWriter Drive

10. Connect the analog audio cable if you want to use a sound board in your system. This cable runs from the four-pin analog audio output connector on the rear panel of your PlexWriter drive to your sound board. See “Using Sound Boards and Audio Cables” below for more information about audio cables.

- 11. Connect a digital audio cable if your sound board is equipped with the Sony/Philips digital interface (SPDIF) or Digital-In, and you wish to use the digital audio output from your PlexWriter. This cable runs from the digital audio output connector pins on the back panel to the sound board. (This cable is not supplied by Plextor.)
- 12. Mount the PlexWriter drive in the computer using the four screws that were supplied with your drive. Use only these screws.

CAUTION: Do not mount your drive in your computer using screws other than those supplied by Plextor. You may damage the drive if you insert screws that are too long or the wrong thread type.

Using Sound Boards and Audio Cables

Whichever category your sound board falls into, you will find that the best source of information about installing the sound board in your computer is the board's manual. Once you have successfully installed the sound board in your computer, you can continue below for a description of the different cable connections that need to be made.

Choosing and Connecting Audio Cables

If you do need audio cables, you will have to purchase them. Refer to the table below. A list of several vendors who offer audio cables is available on Plextor's web site.

Audio Connection	Cable Required	How to Connect It
MPC audio source	MPC-compliant audio cable	Connect to MPC audio source, and to analog audio output connector at the rear of the PlexWriter.
Sound Blaster or compatible sound board	Sound Blaster-compatible analog audio cable	Connect to Sound Blaster-compatible audio board and to analog audio output connector at the rear of the PlexWriter.
Digital audio output	Cable that's compatible with SPDIF or Digital-In.	Connect to SPDIF or Digital-In connector on sound board (if sound board supports digital audio) and to digital audio output connector at the rear of the PlexWriter.

Make Sure the Drive Is Recognized

After installation, make sure the PlexWriter drive and other IDE peripherals are recognized by your computer. To check whether they are recognized:

To see if the drive is recognized in Windows:

1. Turn the computer ON. After the computer boots up, you should see the Windows display.
2. Open Windows Explorer or My Computer and ensure there is an icon for the PlexWriter, the hard disk, and other CD-ROM drives, if present. The PlexWriter may be D: or E: or another designator.
3. If the PlexWriter drive is not recognized in Windows, reboot the computer and use your computer's setup program to program the BIOS to recognize it.

NOTE: Refer to the computer's documentation for information on how to run the motherboard BIOS setup program.

4. Use the motherboard BIOS setup program to set up IDE Master and Slave designations, as needed for your configuration, on the primary or secondary IDE bus. If the IDE interface is disabled on your computer, you will need to enable it. If a Master or Slave device is set to "disable" or "none" or a similar designation, change it as appropriate to "enable" or "auto" (or something similar, depending on your setup program).
5. Save and exit your CMOS setup to restart your computer with the new settings.
6. In Windows 95, 98, 98SE, or Me, once the system comes up click the Start button, then Settings, then Control Panel, then double-click on System icon, then click on Device Manager tab. Click the + sign next to the CD-ROM heading and look at the PLEXTOR CD-R PX-W4824A entry underneath.
-or-
In Windows 2000 or XP, right-click on the My Computer icon and select Properties. Click on the Hardware tab, then click on the Device Manager button. Click the + sign next to the CD-ROM heading and look at the PLEXTOR CD-R PX-W4824A entry underneath.

If you do not see this drive listed as one of the devices, or if it has a yellow diamond with an exclamation point (!), contact Plextor Technical Support. (See "Appendix B: Technical Support" for the different ways you can contact us.)

This page intentionally left blank.

3. Using Your PlexWriter

This chapter explains how to use your PlexWriter drive and how to load, handle and care for your CDs.

CAUTION: Ensure your PlexWriter is in a horizontal position. Plextor does not guarantee the drive's performance in a vertical position.

What Media to Use

Use the right media! Your PlexWriter drive's capabilities change depending on which type of compact disc you use. It currently supports these types:

- **CD-ROM:** You can immediately play or read prerecorded discs, such as audio CDs and data discs.
- **CD-R:** Recordable CD. You can record on these discs, but only once. You can also read them.
- **CD-RW:** Ultra-Speed, High-Speed, and Normal-Speed ReWritable CD. These discs support recording and re-recording (up to 1,000 times). You can also read them.

To achieve 48X CD-R writing speed you must use certified 48X media; and to achieve 24X RW writing speed you must use Ultra-Speed RW media. See "Recommended Media" on page 33 for a list of Plextor-approved media at the time this manual was printed, and see the Plextor web site at <http://www.plextor.com> for an updated list.

You can write to Ultra-Speed RW discs only on drives that support this new media. Drives that are capable of writing to Ultra-Speed RW media, such as the PlexWriter 48/24/48A, are identified by a "Compact Disc ReWritable Ultra Speed" logo.

Tray Loading and Operation

To load and unload the tray:

1. While the PlexWriter drive is powered up, push the eject button on the front panel. The tray drawer slides out in 3–4 seconds.

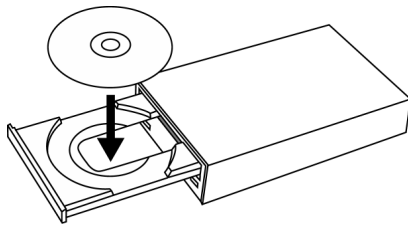


Figure 17: Loading the Tray

2. Lay a blank CD in the depression in the tray, label side up. The disc should lie flat in the tray.
3. Press the eject button again and the tray will slide shut within seconds.

NOTE: Always use the eject button to close the tray in a smooth and secure manner. Closing the tray by pressing the front of the drawer by hand is not recommended and risks damage or premature wearing of the mechanism and your CDs.

Handling CD Media

Take care when handling blank CD-R and CD-RW media. Dust, scratches, and fingerprints on either side of the disc can cause write errors during recording. When picking up or holding blank media you can either place your fingers along the outer edge of the disc, or place one finger through the center hole and one finger on the outer edge. Once you have finished creating a disc, label it by writing on the top using permanent ink.

CAUTION: We recommend using a “non-toxic” marker, such as a Sharpie® pen, that conforms to the ASTM D-4236 standard. Some permanent markers will damage the media. Also, do not press too hard when writing on the disc.

NOTE: We do not recommend placing self-sticking CD-R labels on the disc. The weight of the label may unbalance the disc and cause write errors during recording or read errors during reading.

Cleaning Discs

For proper read and write performance, your CD-R, CD-RW, and CD-ROM discs must be clean. Trying to record on a dirty disc may result in a failed session and ruin the disc.

To clean the disc, wipe the disc using a clean, soft cotton cloth to remove surface dirt such as fingerprints. Use a straight-line motion, wiping from the center out. Do not wipe the disc in a circular motion.

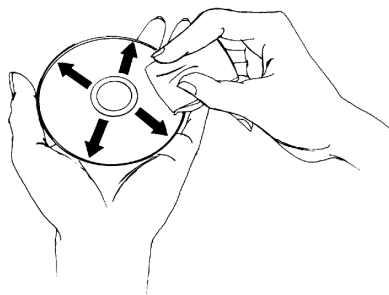


Figure 18: Wipe the Disc from the Center Outward

HINT: Keep your frequently used discs in jewel cases at all times to prevent them from becoming dirty or damaged.

Using the Writing Speed Indicator

When you are writing to a CD or CD-RW disc, the color and blink rate of the front-panel LED indicator indicate the speed of writing, as follows:

LED blink interval in milliseconds	Write speed
Amber, 40 ms	41–48X CD-R; Ultra-Speed CD-RW
Amber, 80 ms	32–40X CD-R; High-Speed CD-RW
Amber, 150 ms	4–31X (CD-R); Normal Speed CD-RW
Green blinking	BURN-Proof working

Using SpeedRead

The default reading speed for your PlexWriter is 40X. However, for some types of discs, SpeedRead boosts this reading speed to 48X. SpeedRead gives you control of the maximum read speed while maintaining data integrity and safe operation.

SpeedRead may be supported by the recording software you're using. You can also activate it manually with the eject button.

What SpeedRead Does

SpeedRead changes the default read speed from 40X to 48X (via hardware or software) for the following types of discs:

- Pressed data CD
- CD-R data CD

Other disc types (for example, CD-DA, mixed mode, and CD-RW) are read at 40X even with SpeedRead enabled.

CAUTION: Reading a poorly balanced or cracked data disc at 48X speed greatly increases the likelihood of disc failure and damage to your drive, and people or items located in front of the drive door. The Plextor warranty does not cover drive damage resulting from shattered discs. Please examine your discs before use and verify there are no visible cracks in the hub area. If the disc makes an abnormal or loud noise during spinup, it may be an indication of a poorly balanced or eccentric disc. In this case **eject the disc immediately**.

The PlexWriter's reinforced tray bezel and drive bezel can resist the escape of the disc or disc fragments in the event of disc failure at this high 48X speed.

Manually Enabling SpeedRead

You can manually enable SpeedRead before inserting a disc into the PlexWriter. To manually enable SpeedRead:

1. Press and hold the eject button for three seconds or longer. The LED indicator blinks green three times and the tray opens.
2. Insert the disc and close the tray using the eject button.

SpeedRead is now enabled. If the disc is a pressed data CD or a CD-R data CD, the PlexWriter will read it at 48X speed.

Disabling SpeedRead

You can manually disable SpeedRead in either of two ways:

- Eject the disc.
-or-
- Turn off power to the drive.

Some specialized software supports setting SpeedRead. With this software, you can select 48X as the default read speed via software control. Check your software manual for instructions for enabling and disabling SpeedRead with software.

Please see Plextor's web site for current information regarding software support for SpeedRead.

NOTE: If SpeedRead is selected by software, hardware control is overridden. When the software disables SpeedRead, you can again change to SpeedRead using the eject button.

Advantages of BURN-Proof

The PlexWriter 48/24/48A incorporates BURN-Proof, which guarantees that you can write discs at high speed, and still use your computer for other tasks while you're writing.

To prevent the interruption of data during writing, every CD-R/RW drive has a buffer, a memory chip that acts as a kind of "holding area." (Typically, the buffer size is 2 MB or 4 MB.) However, this buffer can be emptied quickly when you write at high speeds, or if you use other applications (like surfing the Internet or playing games or watching movies) while writing.

BURN-Proof compensates for any interruption in data flow to the disc. It "remembers" where writing stopped on the disc when the data flow was interrupted, then restarts writing in the same place once the data is available again. BURN-Proof in your PlexWriter 48/24/48A means you can safely use your computer for other things while you're writing to a CD-R or CD-RW disc. It lets you multitask freely and easily, and lets you successfully create CDs on the first attempt.

Advantages of VariRec Technology

This drive is equipped with VariRec (Variable Recording) technology, a feature offered by Plextor that allows you to manually adjust the drive's laser power during the audio recording process.

NOTE: In order for you to actually perform the adjustment, VariRec must be supported by the recording software you're using.

Being able to adjust the laser power during the recording process can have some definite advantages. For instance, depending on the capabilities of your specific audio equipment, you may be able to change the sound quality of your recordings to suit the equipment. Or you may be able to correct compatibility problems that occur when playing discs on certain audio players.

How the Default VariRec Setting Is Determined

In most cases you don't have to worry about setting VariRec. The setting is 0 (zero) by default, and this usually works best. This default setting is determined by a combination of steps:

1. First, we test many types of CD-R media in our factory to determine the best write strategy (laser power and other factors) for that media.
2. We include a table of the tested media and their write strategy in your drive's firmware. (This table is updated when you update your drive by downloading new firmware from the Plextor web site.)
3. When you insert a recordable disc into your drive, Plextor's PoweRec technology automatically identifies the manufacturer, model, and special features of the media, then adjusts the laser power and writing speed so they're at the optimum settings for that disc.
4. The drive uses OPC (Optimum Power Control) to further fine-tune the laser power setting to the specific disc that is in your drive.
5. The combined values of the pre-defined write strategies, along with the OPC test results, create the default VariRec setting of zero.

Changing the VariRec Setting

VariRec lets you increase or decrease the laser power by up to 2 degrees in either the positive or negative direction from this default. You can change the laser power to do comparison testing with your CD player (home, auto, or CD-ROM drives) to find the power setting that best suits you.

Changing the laser power changes the characteristics of the audio being written. You can hear these changes during audio playback, although what you hear will depend on speaker quality, audio settings, and environment.

When You Write with VariRec

VariRec writes in either Track-at-Once (TAO) or Disc-at-Once (DAO) mode. It writes CD-DA (digital audio) on CD-R media at 4X speed, rather than at the full speed of the drive. For this reason, audio recording using VariRec takes a bit longer than a standard audio recording.

Advantages of Overburn

Overburn gives you the capability to burn an audio disc up to 94 minutes 55 seconds in length, or a data disc up to 830 MB in capacity. In order to use the Overburn feature, you need:

- Recording software that supports Overburn.
- Player software that recognizes the Overburned disc.
- Either a 94-minute or a 99-minute disc to allow the Overburn.

Remember, even if you can Overburn a disc, your player software must be able to recognize the Overburned disc, or you will not be able to play it back.

4. Maintenance and Troubleshooting

This chapter explains maintenance and troubleshooting procedures for your PlexWriter drive.

With proper maintenance, you can prevent problems. If trouble arises, you can often solve many simple problems on your own, rather than wait for assistance from a Plextor representative.

Upgrading Firmware

Plextor creates firmware revisions to meet the peculiar needs of large computer manufacturers. It is rare that these will impact the performance or operation of your PlexWriter drive. However, we advise that our customers always update drives with the latest available firmware. Before troubleshooting a possible problem with your drive please make sure to visit our web site at www.plextor.com to check if you have the latest firmware.

To obtain new firmware for your PlexWriter drive:

1. Go to the Plextor web site at www.plextor.com.
2. Look for firmware upgrades in the Support area, on the Downloads page. There is a description of the latest firmware revision and its intended use.
3. Download the firmware to your computer.

To upgrade firmware:

1. Run the executable file that you downloaded from Plextor's web site.
2. Accept all defaults by continuing to click on the "Next" button until you see the message:
Firmware update has completed.
3. Restart your system.

Troubleshooting

If you have problems during or right after installation of your PlexWriter drive, visit the Plextor web site to find tips to help find the problem.

Using the Self-Test Diagnostics

The PlexWriter contains a set of self-test diagnostics that can help isolate trouble and determine if a problem is in the drive or elsewhere.

NOTE: Using the self-test diagnostics requires opening the computer and removing a cable from the drive, then replacing the cable at the end of the test. If you previously installed the PlexWriter in your computer, you should have no fear of the simple procedures that are required. However, if you're not comfortable with opening your PC or Macintosh and disconnecting cables, you may want to let someone with more experience handle this aspect of troubleshooting for you.

What You'll Need

To perform the tests you'll need:

- Tools to remove the computer's cover
- The spare jumper shipped with your drive
- A blank piece of Plextor-recommended CD-R media. (See "Recommended Media" on page 56, or visit our web site.) The self-test will write to this media, so you won't be able to use this disc again.

CD Write/Read Test

This tests three functions of the drive: write, random access, and verify.

To perform the CD write/read test:

1. Turn the computer's power OFF, unplug it from its power source, and open the computer to gain access to the rear of the PlexWriter drive. Typically, this involves loosening or removing several screws on the back panel of your computer and sliding off the cover. (See Figure 3 for an example.)

CAUTION: Before you attempt to open your computer be sure to properly ground yourself by wearing an anti-static wristband. This will help prevent static damage to your computer system.

2. You should be able to see the back of the PlexWriter drive connected to the ATAPI cable, power connector, and, optionally, an analog sound cable.

NOTE: You may have to remove the drive from the computer to perform the next two steps.

3. Hold the ATAPI cable at or near the base of its connection to the PlexWriter. Carefully remove the ATAPI cable from the PlexWriter by pulling the cable gently rearward.

4. Note the position of the mode jumper at the rear of the PlexWriter. A jumper will be installed on either the CABLE SELECT, SLAVE, or MASTER position. Write down this jumper position. (You'll need to replace the jumper after the test.) Then:
 - ❑ If the jumper is on the MASTER position, move it to the SLAVE or CABLE SELECT position for this test.
 - ❑ If the jumper is on the SLAVE or CABLE SELECT jumper, leave it in place.
5. Install the spare jumper, located in the accessory kit, so that both the CABLE SELECT and SLAVE positions are jumpered, as shown below.

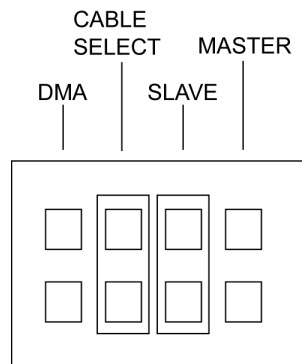


Figure 20. Place Jumpers Across Both the SLAVE and CABLE SELECT Pins to Perform the Self-Test Diagnostics.

6. If you removed the drive for access to the cable and mode jumpers, slide it back into the computer and connect the power cable to the drive.
7. Replace the computer's cover and re-connect the computer's power cord to the power source.

CAUTION: Turning on the computer power without first replacing the cover can be dangerous to the computer's components and also to you. Be aware of the danger of electric shock and do not touch any components inside the computer.

8. While pressing the eject button on the PlexWriter, turn the computer power on. The LED indicator blinks green and amber and the tray ejects.
9. Insert a blank Plextor-recommended CD-R disc. Be sure to use only CD-R media of the type recommended by Plextor.
 - ❑ If the DISC indicator blinks amber three times, the loaded disc is not a blank CD-R disc. Remove the disc and insert a blank, Plextor-approved CD-R disc.

10. The drive begins the diagnostic routine. Upon completion of the diagnostic, you see the results:
 - ☐ If there was no problem, the disc is ejected automatically.
 - ☐ If there was a problem, the disc is not ejected, and you see the LED indicator blink green. One green blink indicates a write or read error. Two green blinks indicate an initialization error.
11. If the disc was not ejected automatically, press the eject button to eject the disc.
12. Turn off the computer power.
13. Reset the mode jumper at the rear of the PlexWriter to its original setting as noted in Step 4 above. Also, remove the spare jumper you installed.
14. Reconnect the IDE cable to the PlexWriter drive. If you removed the drive to gain access to the cable or jumpers, replace the drive in the computer. Then replace the computer cover.

If you discover a problem with the PlexWriter drive, do not attempt to service the drive yourself. Contact us to get an RMA number and take steps to return the drive to Plextor. See “Returns” on page 40 for details.

What the Self-Test Results Indicate

- If a drive passes the self-test, then the drive’s operation is OK.
- If the drive fails the self-test, in some cases the problem may be caused by the media. Try the self-test again using a different brand of CD-R media; if the drive passes the self-test this time, the drive is OK.

Appendix A: PlexWriter Specifications

Minimum System Requirements

Computer	Pentium II 300 MHz CPU or faster.
Minimum RAM	64 MB
Hard Disk Size	1 GB of free space to write to a CD in image mode
Operating System	Windows XP, Me, 2000, 98, 98SE, 95

Recommended Media

- CD-R: 48X To ensure 48X write speed, Plextor recommends using only certified 48X media available from Maxell, Verbatim/Mitsubishi Chemical, and Taiyo Yuden.

CAUTION: High error rates may occur with media not recommended for 48X speeds.

CAUTION: Possible damage to the disc or the PlexWriter can occur at 48X if the disc is unbalanced, cracked or chipped. Examine the disc before enabling SpeedRead.

NOTE: With PowerRec, some discs may be recorded at 16X because of lower quality media. When PowerRec is disabled, you can write at any speed.

For the latest updated list of certified 48X media, see Plextor's web site at:
<http://www.plextor.com>

- CD-R: 40X Mitsui Chemicals, Maxell, Taiyo Yuden, Verbatim/Mitsubishi Chemical
- CD-R: 32X Ricoh, Mitsui Chemicals, Maxell, Taiyo Yuden, Verbatim/Mitsubishi Chemical
- CD-R: 24X-4X Ricoh, Mitsui Chemicals, Verbatim/Mitsubishi Chemical, Taiyo Yuden, Maxell
- CD-RW: 24X Verbatim/Mitsubishi Chemical
- CD-RW: 10X-4X Ricoh, Verbatim/Mitsubishi Chemical
(All CD-RW media are rewritable up to 1,000 times.)

Supported Media

Supported Media, Stamped CD	Red, Yellow Book-compliant discs
Supported Media, CD-R	Orange Book Pt II-compliant discs (Type 74, Type 80) (94-minute, 99-minute discs are supported by the Overburn feature)
Supported Media, CD-RW	Orange Book Pt III-compliant discs
Supported Media Size	12 cm

Usable Formats

Logical CD Read/Write	CD-DA, CD-Extra, CD-ROM Mode-1, Mix CD, CD-ROM XA, Photo-CD, Video-CD, CD-I, Multisession, CD TEXT, CD+G, UDF
Write Methods	TAO, DAO, Packet Write (variable and fixed), Multisession, SAO, Mt. Rainier (MRW)

Performance Specifications

Read Speed, CD	Speed	Mode-1	Mode-2	CD-DA
	20-48X	Stamp,R		
	18-40X	Stamp,R,RW	Stamp,RW	Stamp,R
	14-32X	Stamp,R,RW	Stamp,R,RW	Stamp,R,RW
	10-24X	Stamp,R,RW	Stamp,R,RW	Stamp,R,RW
	8X CLV	Stamp,R,RW	Stamp,R,RW	Stamp,R,RW
	4X CLV	Stamp,R,RW	Stamp,R,RW	Stamp,R,RW
	NOTE: 48X is obtained with SpeedRead activated. Default is 40X. NOTE: "Stamp" indicates commercially pressed "silver" discs			
Write Speed, CD-R	48X CAV 40X PCAV, 32X PCAV, 24X PCAV 20X CLV, 16X CLV, 8X CLV, 4X CLV			
Write Speed, CD-RW	Ultra-Speed media: 24X PCAV High-Speed media: 4X, 10X Normal-Speed media: 4X			

Performance Specifications (continued)

Transfer Rate	Speed	Write (Kbps)	Read (Kbps)
	48X	3000~7200 (CAV)	3120~7200 (CAV)
	40X	3000~6000 (PCAV)	2710~6000 (CAV)
	32X	3000~4800 (PCAV)	2170~4800 (CAV)
	24X	3000~3600 (PCAV)	1600~3600 (CAV)
	20X	3000 (CLV)	—
	16X	2400 (CLV)	—
	10X	1500 (CLV)	—
	8X	1200 (CLV)	1200 (CLV)
	4X	600 (CLV)	600 (CLV)
Initialization Time	< 13 sec. (typical), < 15 sec. (max.) Time measured from power on until disc is available to read		
Access Time	< 65 msec. (typical) Time measured from start command until bus free (no disconnect)		
Sleep Mode	Entered after 2 minutes of no access to drive		
Wake Mode	< 5 sec. (max.) to start drive after sleep		
Front Panel			
Eject	Eject Button; Manual Emergency Eject; Software Eject. SpeedRead: When eject button pressed for 3 seconds, PlexWriter reads CDs at 48X.		
LED Indicator	Green: Disc load Blinking yellow: Reading disc Blinking amber: Writing data to disc Green during writing: BURN-Proof is active Blinks green 3 times when SpeedRead is enabled		
LED Indicator Blink Interval and Write Speed	40 ms interval, amber: 41–48X CD-R; US-RW 80 ms interval, amber: 32–40X CD-R; HS-RW 150 ms interval, amber: 4–31X CD-R; NS-RW		
Disc Loading	Auto		
Headphone Jack	Stereo mini-jack, 0.8V +/- 0.3V at 32 ohms		
Headphone Volume Control	Wheel knob		

Rear Panel

Power Supply	DC +5V: Typically 800 mA during writing (48X), 600 mA during reading. Peak (OPC and spinup): 1.5 A. DC +12V: Typically 1.0 A during writing (48X), 800 mA during reading. Peak (OPC and spinup): 2.0 A.
Interface Connector	IDE bus, 40-pin flat ribbon type. Interface complies with ATA/ATAPI-5. Maximum total cable length cannot exceed 18 in (45.7 cm).
Analog Audio Output	Stereo analog output, Molex connector (L*G*G*R), MPC-3 standard Output 0.55V +/-0.1V at 10k ohms
Digital Audio Output	Digital audio output for input to SPDIF or Digital-In input
Mode Jumper	Master (default), Slave, Cable Select
DMA Jumper	Open (no jumper): Ultra DMA Mode 0-2 (default) Short (jumper installed): Multiword DMA Mode 0-2

Host Interface

Type	ATA/ATAPI-5-compliant
PIO Transfers	Modes 0-4
Multiword DMA Transfers	Modes 0-2
Ultra DMA Transfers	Modes 0-2
ATAPI Command Set	Supports CD-ROM commands, including special commands for CD-R and CD-RW.
Inquiry string	PLEXTOR sp CD-R sp sp sp PX-W4824A (where "sp" equals one space)

Other Features

Data Buffer	4 MB
Error Rate	CD-ROM Mode 1: 1 Block/10 ¹² Bits CD-ROM Mode 2: 1 Block/10 ⁹ Bits

Environmental Conditions

Operating Temperature	0 to 40 degrees Celsius
Performance Guarantee Temperature	5 to 40 degrees Celsius
Operating Humidity	20% to 80% (non-condensing)
Storage Temperature	–40 to 60 degrees Celsius
Storage Humidity	20% to 95% (non-condensing)

Dimensions and Weight

Dimensions (W/H/D) (excluding front panel)	5.75" x 1.63" x 7.48" 146 mm x 41.3 mm x 190 mm
Weight	2.2 lbs. (1.0 kg)

Reliability

MTBF	60,000 Power On Hours
Tray Loading	50,000 Load/Unload Cycles

Safety and EMC Standards

Country/ Region	Type	Agency	Standard
USA	Safety	UL	UL 1950
	Laser	FDA	FDA 21 CFR
	EMC	FCC	Part 15 Subpart B
Canada	Safety	CSA	CSA 22.2 No. 950
			UL1950 (C-UL Mark)
Europe	Safety	CE	EN60950/IEC60825-1
	Laser	CE	IEC 60825-1
	EMC	CE	EN55024, EN50022
Taiwan	EMC	BSMI	CNS13438 Class B
Korea	EMC	MIC	
Australia/NZ	EMC	C-Tick	AS/NZS 3548(CISPR 22)

This page intentionally left blank.

Appendix B: Technical Support

Store Plextor's e-mail, web site, phone, and fax numbers in a convenient location. Keep your drive's serial number and a copy of your sales receipt handy as well.

If you experience a problem while installing or operating your PlexWriter drive, please refer first to the relevant sections of this manual regarding setup and installation (Chapters 1–3). If you do not uncover the solution there, please refer next to the maintenance and troubleshooting chapter that begins on page 29. You may also wish to refer to the Frequently Asked Questions (FAQ) section of our web site to assist you in troubleshooting the problem on your own.

NOTE: We encourage you to go the Plextor web site (www.plextor.com) before attempting to contact Technical Support. The answers to the most common questions callers ask can be found quickly in the support area. Select PlexHelper for online troubleshooting or FAQs for common questions.

If you have not been successful in your quest, our Technical Support Department will help you solve problems that relate specifically to your PlexWriter drive. In many cases, a problem that appears to be caused by your PlexWriter actually originates in another part of your computer. In such instances, our technical support staff will try to help you identify the part at fault and will refer you to the manufacturer of that part for further assistance.

How to Contact Plextor Technical Support

There are several ways for you to contact Plextor's Technical Support Department:

- Visit our web site (www.plextor.com) for answers to Frequently Asked Questions.
- Send us e-mail at support@plextor.com. Include your telephone number and the hours during which you can be reached. Be as detailed as possible in describing your problem. Please include system configuration, hardware and software, as well as versions of drivers used.
- Call 800-886-3935 and select the tech support option.

Before You E-mail/Log On/FAX/Call

Please gather as much of the following information as possible before contacting us.

- The serial number and TLA number of your PlexWriter. Your serial number can be found both on the warranty card that accompanied the drive and on a label on the drive itself. The TLA number appears both on the drive label and on a sticker at the rear of internal drives.
- The latest version of firmware you loaded onto the drive, if applicable.
- The version of the Windows, Mac, or UNIX operating system you are using.
- The brand name and model number of your computer (e.g., Dell 466/NP, Hewlett-Packard Pavilion 752n, Apple Macintosh, etc.).
- The type of VGA, Super VGA, or other graphics board you use.
- Brand name and model number of any other peripherals you have installed or connected to your computer (e.g., CD-ROM, scanner, fax board, network board).

Returns

In the unlikely event that you need to return a drive to Plextor, you need an RMA (Returned Materials Authorization) number. You need this number before any Plextor drive can be returned for repair or replacement. Here's how you get an RMA number and return your drive:

1. When you contact Plextor Technical Support, you receive a Tech Support Ticket Number.
2. Then you contact Plextor's RMA Department by phone (800-886-3935), e-mail (rmasupport@plextor.com), or fax (510-651-9765) and get an RMA Request Form. These forms are also available on Plextor's web site, in the Support/Warranty section.
3. Fill out the RMA Request Form, include the Tech Support Ticket Number, and e-mail or fax the form to Plextor to request an RMA number.
4. Plextor then sends you the RMA form with the RMA number and shipping information included.
5. When you receive the RMA number, pack the Plextor drive securely in a box, and include the RMA form as a packing slip.
6. Write the RMA number in large letters on the outside of the box, and ship it to Plextor.

Contacting Plextor's RMA Department

You can contact our RMA Department and request RMA forms at:

- rmasupport@plextor.com
- Or by fax at 510-651-9765
- Or by calling us at 800-886-3935

Shipping Your Drive to Plextor

Be sure to write the RMA number on the outside of the shipping box. Any drive sent to Plextor without an RMA number will not be accepted.

NOTE: The RMA number must be clearly visible on the outside of the shipping box.

Drives must be sent postage prepaid. We recommend that you insure your shipment, as Plextor cannot be held responsible for any damage that may occur during shipment.

This page intentionally left blank.

Appendix C: Warranty

PLEXTOR CORP. (“Plextor”) warrants your PlexWriter 48/24/48A against any defect in material and workmanship, under normal use, for a period of one year following its date of purchase. In the event this product is found to be defective within the warranty period, PLEXTOR will, at its option, repair or replace the defective unit.

This warranty is void: a) if the unit is operated or stored under abnormal use and maintenance conditions; b) if the unit is repaired, modified or altered, unless such repair, modification or alteration is expressly authorized in writing by PLEXTOR; c) if the unit is subjected to abuse, neglect, lightning strike, electrical fault, improper packaging, or accident; d) if the unit is installed improperly; or e) if the serial number of the unit is defaced or missing.

PLEXTOR will not, under any circumstances, be liable for direct, special, or consequential damages such as, but not limited to, damage or loss of property or equipment, loss of profits or revenues, cost of replacement goods, or expense or inconvenience caused by service interruptions. Under no circumstances will any person be entitled to any sum greater than the purchase price paid for the unit.

To obtain warranty service, you must contact PLEXTOR’s Technical Support Department by calling 800-886-3935. They will attempt to diagnose and correct your problem by phone. If the unit does not function properly, they will issue a Return Material Authorization (RMA) number. You may be asked to furnish proof of purchase to confirm that the unit is still under warranty.

All product returns must be authorized in advance by PLEXTOR’s Technical Support Department. Authorization is confirmed by issuance of the RMA number, which must be written prominently on the outside of the box in which the defective unit is returned to PLEXTOR.

All drives returned to PLEXTOR must be securely packaged and shipped postage prepaid.

The drive will be returned to the customer at Plextor’s expense when originating within the United States. For a drive originating outside of the United States, the customer is responsible for shipping costs in both directions.

NOTE: Warranty validity is limited to that applicable in the location where the drive was originally purchased.

This page intentionally left blank.

Index

A

- access time · 35
- analog audio output · 36
 - connector · 5, 19
- ATAPI command set · 1, 36
- ATAPI settings · 2
- audio
 - analog · 36
 - digital · 36
- audio cable · 20

B

- bay cover panel · 17
- box
 - contents of · 3
 - shipping · 3, 40
- buffer · 36
- BURN-Proof · 2, 26
 - LED indicator and · 4, 25, 35

C

- cable
 - audio · 20
 - IDE · 15, 16, 18
 - MPC · 20
 - power for drive · 16
 - Sound Blaster · 20
 - SPDIF · 20
- cable connections · 19
- cable select · 13
 - identifying · 14
 - master · 14
 - setting mode jumper · 9
- call ticket number · 40
- CD-DA
 - reading speed with SpeedRead · 25
- CD-R
 - media · 23
 - reading speed · 1
 - reading speed with SpeedRead · 2, 25, 34
 - writing speed · 1, 34
- CD-ROM, playing · 23

CD-RW

- media · 23
- reading speed · 1, 34
- reading speed with SpeedRead · 25
- writing speed · 1, 34
- cleaning disc · 24
- closing tray · 24
- computer, minimum · 2
- configuration
 - CSEL · 13
 - minimum · 2, 33
 - types of IDE · 8
- connection
 - digital audio · 36
 - sound board and · 20
- connector
 - analog audio output · 5, 19
 - digital audio · 5, 20
 - IDE interface · 5, 18
 - power · 5, 19
- connectors and jumpers, rear-panel · 5, 36
- controls, front-panel · 4, 35
- cover panel, bay · 17
- CSEL signal · 13

D

- data buffer · 36
- data disc, reading speed with SpeedRead · 25
- diagnostics · 2, 30
 - CD write/read test · 30
- digital audio output · 36
 - connector · 5, 20, 36
- Digital-In connector · 5, 20, 36
- dimensions · 37
- disc
 - cleaning · 24
 - labels · 24
 - loading · 35
- DMA jumper · 5, 14, 36
- drive
 - installing · 15
 - recognizing in Windows · 21

E

eject button · 4, 35
 closing tray · 24
 SpeedRead and · 4, 35
EMC standards · 37
emergency eject hole · 5
environmental conditions · 37
error rate specification · 36

F

firmware · 27
 obtaining · 29
 upgrading · 29
formats · 34
front-panel controls · 4, 35

H

hard disk size · 2, 33
headphone jack · 4, 35
headphone volume control · 35
high speed media · 34
high-speed CD-RW media · 23
host interface · 36
humidity specification · 37

I

IDE configuration
 determining · 8
 examples · 11
 selecting · 10
IDE interface · 1
IDE interface connector · 5, 18
IDE ribbon cable · 15, 16
 connecting · 18
initialization time · 35
inquiry string · 36
installation · 7, 15
 quickstart · 7
interface connector · 36

J

jumper
 DMA · 5, 14, 36
 mode · 5, 9, 36

L

label, disc · 24
laser power, adjusting with VariRec · 27
LED indicator · 4, 35
 blink rate · 25, 35
 BURN-Proof and · 4, 25, 35
 color · 4, 25, 35
 SpeedRead and · 4, 26, 35

M

maintenance · 29
master · 8
 cable select · 14
 setting in BIOS · 21
 setting mode jumper · 9
media · 23
 care and handling · 24
 recommended · 33
 supported · 34
memory, minimum · 2
minimum configuration · 2, 33
mode jumper · 5, 36
 setting · 9, 10
mounting position · 6, 15, 23
mounting rails · 17, 18
MPC-compliant audio cable · 20
Mt. Rainier · 2
MTBF · 37
multiword DMA · 5, 14
 transfers · 36

N

normal speed media · 34

O

OPC · 2, 27
opening the computer · 7
operating system · 33
overburn · 2, 28
 requirements for · 28

P

power cable · 16
 connecting · 19
 power connector · 5, 19
 power supply · 36
 PoweRec · 27
 PoweRecII · 1
 precautions · 6
 primary IDE port · 8

Q

quickstart installation · 7

R

rails · 17, 18
 RAM, minimum · 2, 33
 read specification · 34
 reading speed · 34
 CD-DA · 25
 CD-R · 1
 CD-RW · 1, 25, 34
 data discs · 25
 SpeedRead and · 2, 25, 34
 rear-panel connectors and jumpers · 5, 36
 recognizing the drive in Windows · 21
 recording length, extending · 28
 reliability · 37
 returns · 3, 40
 RMA number · 3, 40
 running OPC · 2

S

safety standards · 37
 screws, mounting · 20
 secondary IDE port · 8
 security sticker · 3
 selecting an IDE configuration · 10
 self-test diagnostics · 2, 30
 CD write/read test · 30
 serial number, recording · 15
 shipping your drive · 3, 40
 slave · 8
 setting in BIOS · 21
 setting mode jumper · 9
 sleep mode · 35
 software · 6
 Sony/Philips digital interface · *See* SPDIF

Sound Blaster-compliant audio cable · 20
 sound board, connections to · 20
 SPDIF cable · 20
 SPDIF connector · 5, 20, 36
 specifications · 33
 performance · 34, 35
 speed
 monitoring · 25, 35
 reading CD-R · 1
 reading CD-RW · 1, 34
 writing · 11
 writing CD-R · 1, 34
 writing CD-RW · 34
 SpeedRead · 2, 25, 34
 disabling · 26
 eject button and · 4, 35
 enabling manually · 26
 LED indicator and · 4, 26, 35
 software overrides hardware settings · 26
 stereo output signal · 5
 support · 39

T

technical support · 39
 temperature specification · 37
 TLA code · 15
 tray
 closing · 24
 front door · 4
 loading and unloading · 23
 troubleshooting
 self- test diagnostics · 2, 30

U

ultra DMA · 5, 14
 transfers · 36
 ultra speed media · 34
 upgrading firmware · 29

V

VariRec · 27
 changing setting · 27
 default setting · 27
 volume control · 4, 35

W

- wake mode · 35
- warranty · 43
- weight · 37
- write specification
 - CD-R · 34
 - CD-RW · 34
- writing a CD
 - image · 2
 - limitations on speed · 11
- writing speed
 - CD-R · 1, 34
 - CD-RW · 1, 34
 - monitoring · 25, 35

Notes

PLEXTOR CORP.
48383 Fremont Blvd.
Suite 120
Fremont CA 94538-6509

Phone: **510-440-2000**
800-886-3935
Fax: 510-651-9755

E-mail: info@plextor.com

www.plextor.com